THE
VETERINARY RECORD.
The Official Journal of the National Veterinary Medical Association of Great Britain and Ireland, Limited.
FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888.

No. 22. JUNE 3, 1922. VOL. 2.

Prolapsus Recti and Prolapsus Uteri and Vaginæ in Dogs.

PROLAPSUS RECTI IN PUPS.

Prolapsus recti appears most frequently in young, debilitated pups three to six months old. It may, however, appear without warning at any age.

Cause.

Irritation is always the cause. This irritation may be the result of diarrhœa, constipation, parasites, trauma, tumours, labour pains, enlarged prostates, and medical agents. Some of the above-named causes do not apply to pups, however.

Symptoms.

Difficult, painful locomotion; blood-stained hind quarters and kennel floor. The patient shrinks from and resents examination. A long, cylindrical, bloody mass is seen hanging from and protruding through the anal ring, and presents a semi-solid, deeply plethoric mass, with lacerations from contact with foreign bodies. At the distal end and in the centre is an orifice, through which passes, when the animal strains, a few drops of liquid or semi-fluid bloody excrement.

This mass is at first bright red, but after several hours' exposure it becomes darker and more swollen. If not treated it will become ulcerated, and necrotic areas may appear.

This prolapse may vary in length according to breed, age, and intensity of attack, and should not be confused with prolapse of the anus, which never protrudes more than a short distance: nor should it be confused with intussusception of the colon, with the rectum and anus in normal position. The last-named condition can be determined by inserting the finger between the anal wall and the projection and finding the projection circumvallated.

Treatment.

The unceasing efforts of the patient to inhibit retention makes prolapsus recti one of the most difficult problems of the small-animal practitioner. Palliative treatment corrects such a small per cent. of cases that, so far as the writer is concerned, the only successful treatment is amputation. This is done in the following manner:—

Give hypodermic of H. M. C. As soon as the patient becomes quiet, wrap the protruded mass in cotton saturated in a solution of chlorazene. Hold in place with rubber bands. Sterilize the following instruments:—Sixteen small curved needles with silk or catgut sutures, one straight and one curved forceps, one small pair of shears, two or three small artery forceps, one scalpel, one needle holder, one seton needle, one pair rubber gloves. Insert in the seton needle a strong cotton or linen thread about 18 inches long, so one end will be six inches and the other 12 inches long. Wrap a piece of cotton on the seton needle about the size of the lumen of the intestine and about two inches long. With the 12-inch string wrap the cotton lightly by looping several times, and draw the cotton to a point slightly past the end of the needle. Place this in a solution of chlorazene. Its use will be explained later.

The patient is then placed under a general anæsthetic, the protruded mass slipped through a slit in a sterile sheet of rubber or gauze held firmly against the body, and the tail wrapped in sterile gauze. Remove the chlorazene pack, which should have been in place about 45 minutes. Place a rubber band around the mass close to the anus. Insert one jaw of the straight forceps in the lumen of the mass and clamp firmly. Have assistant grasp forceps in one hand and the tail in the other and keep a slight tension on the gut. With the scalpel make a transverse incision on the upper surface, about one-half to one inch from the anus, completely through the tunics of the external tube. Expose just enough of the serous surface of the inner tube to allow a stitch to be taken through the serosa and deeper layers of the anal portion of the outer tube and like layers of the inner tube; tie the stitch and cut off ends closely. Repeat this operation until a complete row of stitches (about eight in number) are taken and the external tube is severed. The median hæmorrhoidal blood vessels should be included in the two lateral stitches. Severing only enough tissue for one stitch at a time prevents a twist or flexure in the bowel by preventing the inner tube from moving. Slip the outer tube back out of the way and make a small transverse incision through the tunics of the inner tube, about one-fourth inch from the first line of stitches. The anal portion of the external tube has a tendency to turn back to normal position, which fact aids the operator by bringing the two mucous surfaces closer together. A stitch is then taken to bring the two mucous surfaces together. Do not allow the needle to penetrate the serous surface of either tube. Repeat this operation until the inner tube is three-fourths severed. Now grasp the anal portion with the curved forceps opposite the remaining strip, sever the strip with shears, and

complete stitching. Remove the rubber band from anal portion; insert cotton-wrapped seton needle about one inch. Release curved forceps and replace remaining portion of prolapse. This places cotton pack with equal portion on either side of row of stitches. Slight traction on seton needle and 6-inch string causes the pack to be held in place and the needle withdrawn. The 6-inch string is left protruding. In about 15 minutes the pack should be removed by gently pulling the protruded string, which tightens on the pack and reduces its size.

After-Care.

The patient should be kept quiet for two or three days. It is sometimes necessary to administer hypnotics if there is persistent straining. Continue fasting the patient for 12 to 24 hours, according to the strength of the patient, and put on light diet for two or three days following the fasting. A hot sitz bath night and morning tends to soothe the parts.

Objections to Other Methods.

All other methods practised by the writer to correct the condition have either prolonged suffering or caused fatal delay.

Amputation by ligation has the following bad features: Gangrene is produced and held in apposition with the clean, healing tissue, which is not good surgery when it can be avoided. The patient's suffering is prolonged, and there is danger of amputating a fold of intestine and causing death.

Laparotomy and ventro-fixation has the objectionable feature of producing a sharp V-shaped curve in the intestine, and the normal action of the bowel is interfered with and difficult and painful defæcation follow as the result of the adhesion.

The tobacco-pouch stitch and use of astringents add to the irritation and cause continued straining and have never produced results for the writer.

PROLAPSUS VAGINÆ AND UTERI.

The fact that only about 25 per cent. of the small-animal practitioner's patients are females, and only a small per cent. of those afflicted with prolapse of the vagina or uterus, makes this ailment rare rather than common. Especially is this true of prolapse of the uterus, which is not nearly so common as prolapse of the vagina. This condition is extremely difficult to handle in a satisfactory manner, both to yourself and your client. Especially is this true in the brood bitch that the owner wishes to keep in service, as the ordinary amputation by ligation or by dissection or any method that tends to lessen the lumen or interfere with the normal function of the reproductive organs cannot be used.

Cause.

This condition is caused most frequently by difficult whelping. It may also be caused by constipation, diarrhœa, cystitis, tumour growths or any irritation that causes straining.

Symptoms.

A pear-shaped, red mass is seen protruding from the vulva. This mass is covered with mucus and bloody serum. If of long standing, ulcerated or gangrenous areas appear. The patient strains, licks the hind parts, and makes frequent efforts at micturition. If there is a prolapse of the uterus in connection with the vaginal prolapse, one or both of the horns will be prolapsed, as the uterus in the bitch is so short that when it is everted a portion of one or both cornua will be exposed. I have never witnessed a case where both horns prolapsed. The mass ordinarily is readily replaced within the lips of the vulva, only to be again forced out as soon as the external pressure is removed.

Therapeutics.

In brood bitches, replacement by digital manipulations and the use of a blunt instrument or tallow candle, and retention without surgical interference, should be practised.

After coating with sugar and replacing, a large pressure pad, held in place by a liberal amount of adhesive tape, should be used, and the patient kept quiet for 24 hours. H. M. C. is a good agent to use at this time. Vaginal douche should not be given unless the mass has suffered trauma, as the presence of a foreign matter produces a desire to void which is undesirable at this time.

When the above method fails, I resort to the following:—Administer H. M. C.; pack the projection in a solution of chlorazene held in place with rubber bands. Sterilize the following instruments: One scalpel, two rat-tooth, one pair curved shears, rubber gloves, two or three small hæmostatic forceps, one pair curved forceps. Give a general anæsthetic. (The operation may be done with local anæsthetic, but I prefer a general.) If hard fæces are present, they should be removed. Remove the chlorazene pack and empty the bladder. With large curved forceps grasp the everted horn by placing one jaw of the forceps within the lumen of the horn and grasp firmly. Withdraw the mass as far as possible and inject a solution of adrenalin. With the scalpel make a small transverse incision one-fourth to one-half inch long (according to the size of the organ prolapsed), through the mucous membrane at the vulvo-vaginal margin. Starting from the perineal surface dissect a strip of mucous membrane the size of the incision in a right oblique line, to the inferior surface of the os uteri. Leave a like strip of normal tissue, and repeat this operation until 50 per cent. of the mucous membrane has been removed. For descriptive purposes the surface of the vagina might now be compared to the old-fashioned striped stick candy, the red oblique stripes representing the strips of removed mucous membrane and the white strips the remaining normal mucous membrane. With the curved shears clip several longitudinal pieces equal distances apart from the ring of the everted os uteri and treat the everted horn in the same manner as the everted vagina. After the hæmorrhage is controlled apply a liberal

application of sugar and replace the organ by digital manipulation and the use of a tallow candle. Apply a pressure pad and leave it in place 24 hours, and keep the animal quiet for two or three days.

The scars formed by the above operation act as a torsion obturator to hold the organ in place. This aided by the longitudinal strips removed from the os uteri and the application of sugar will control a large per cent. of cases.

If this operation fails, and there is no gangrene present, I advise coliotomy and ventro-fixation. Where gangrene is present, amputation or destruction is advisable.—J. C. FLYNN, in the *Journal Am. Vet. Med. Assn.*

The Curriculum.

By B. GORTON, M.R.C.V.S., M.P.S.

For some time previous to the war it was realised by those interested in medical education that the course of study prescribed by the various examining bodies required considerable reorganisation. But an end was put to the consideration of any schemes which sought to bring this about by the outbreak of the great conflict. The matter has now been revived, and the conjoint Board of the Royal Colleges of Physicians and Surgeons have issued a draft scheme dealing with the education of medical students. The Board has suggested quite a number of alterations, some of which interest the veterinary profession.

In the first place, they recommend that pathology and bacteriology should have a special examination to themselves, and not be taken as part or parts of other subjects. It is difficult for a veterinary surgeon to realise that there is at present no separate test in these subjects in the curriculum of the conjoint Board, and the veterinary profession is to be congratulated upon the fact that for so many years our Royal College has deemed these subjects to be so important that a proper examination has to be passed in them. The result of this far-sighted policy has undoubtedly been to enable the veterinary practitioner to compete very successfully as a bacteriologist with the doctor.

Another recommendation of the Board has the effect of lengthening the time of study devoted to what may be called professional subjects, without increasing the time spent at a hospital. The suggestion is that chemistry and physics be taken at school and removed from the first examination. This alteration would give more time for anatomy and physiology, and this would be very beneficial. Biology is to be retained, but only as far as it is concerned with those subjects (*e.g.*, parasitology and embryology), for which it naturally forms a foundation. There are many other alterations suggested in the draft report, but to us they are of little moment.

The issue of these recommendations by the conjoint Board again brings into the foreground the desirability of a revision of the veterinary curriculum. The crying need in our profession is for a longer practical training in medicine and surgery, the two subjects which, after all, are the mainstays of practice. A year is quite an insufficient period to devote to them, considering that an equal length of time is devoted to elementary chemistry, biology and the anatomy of bones and joints. The example of the conjoint Board should be followed. Let chemistry, physics and botany be taken at school and the time thus saved be used to lengthen the study of anatomy, which is the foundation of all medical and surgical knowledge. The necessity for a longer course in anatomy is obvious when it is realised that the animals about which the student is expected to show considerable knowledge are seven in number, namely, the horse, ox, sheep, pig, dog, cat and fowl. Who can acquire a real acquaintance with the structure of all these animals in the short time now devoted to it? The extra dissecting that could be carried out if the above suggestion were adopted would be invaluable. With regard to the final subjects, a start should be made in clinical instruction in the third year, thus giving the student an opportunity of bringing his anatomical knowledge into use before most of it has been forgotten. The additional time required for this clinical work could be found by considerably shortening the course in materia medica, a subject which is treated with too great a respect.

These few alterations, which cannot be said to be revolutionary, would tend to increase practical efficiency without unduly interfering with the pursuit of purely scientific studies. It must always be borne in mind that success in medicine depends chiefly upon correct clinical diagnosis, which is only to be obtained by a lengthy practical acquaintance with animals in health and disease, and by the use of a proper knowledge of their structure. It is to be regretted that the tendency nowadays is to base diagnosis upon the results obtained by means of mechanical appliances and biological products to the detriment of clinical observation. The time has now come when every endeavour should be made to encourage improved teaching in those practical subjects taken in the final year, the knowledge of which may be taken as an index of a veterinary surgeon's capabilities.

Medical Book-Keeping.

(*Extract from "The British Medical Journal," April 15th,* 1922.)

Dr. F. Arthur Hepworth (Saffron Walden) writes: "Seeker's" inquiry on this subject leads me to recommend the system of book-keeping, which is saving me much time and labour, and which I find infinitely simpler than the old one—comprising day-books, ledgers, and cash-book—of my earlier experience. I use a card system for individual records and accounts and a cash-book showing receipts on the left-hand page and expenses on the right page. No day-book is kept and no ledger. The card system consists principally of white cards, size 7 inches by 5, having the patient's name and address at the top and ruled in four columns for date, particulars of case, treatment, and cash. The second column contains particulars of consultation or visit and any clinical details which I wish to remember. Under treatment

I enter prescription and a record of anæsthetics, operations, instrumental aid at confinements, electrical or massage treatment, articles supplied, or any other special details which are to be charged for in the last column. Fees are entered in black ink, cash payments in red ink, and when an account is paid the payment is entered in red and a red line ruled across the card. The amount paid is also entered in the cash-book at the same time. In the case of single patients this completes the booking. The whole account can be seen at a glance, and any account asked for can be made up at a moment's notice. All cards are filed in alphabetical order, subject only to the modification required to keep those for members of one family together. In the case of a family also, I file a pink ledger card in front of the group of individual cards. This ledger card contains only the totals for each quarter or half year transferred from the individual cards. This represents the whole of the posting required.

The keeping of the cash-book is important. Every amount received or paid is entered at once. The book I use is of the analytical type, having seven columns on each side. I have separate columns for private fees, panel payments, appointments like pensions' referee and life assurance, consultation fees, etc., and on the expenses side, separate columns for motor expenses, drugs, rent and taxes, and so on. The sixth column is reserved for payments and drawings on the bank, and should correspond exactly with the bank pass-book. This column can with advantage be figured in red ink. The seventh column is of course a summary of the other six.

The cash-book can be balanced on any day of the year, it can be checked by the bank pass-book, and the financial condition of one's practice can be ascertained at any time without difficulty. It is hardly necessary to say that the pass-book for my practice is separate from that for my private account.

It has been claimed that the time taken in finding a required card and in filing cards at the end of a busy evening is a serious drawback to the use of a card system. I find that this loss of time is more than compensated by the time saved in looking up old references in ledger and day-book, and by having the whole of a patient's history and cash account before me at each consultation. The time saved in posting and in making out quarterly accounts is enormous. For purposes of audit the cash-book, pass-book, and file of receipted bills are all that are required. By having the books audited once a year all the requirements of income tax inspectors, or a possible future purchaser of the practice, can be satisfied.

The "Veterinary Record" at the British Museum.

Complete File since 1888.

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The law which enacts that a copy of every newspaper, book, or pamphlet offered for sale should be forwarded to the British Museum was, until quite recent times, allowed to be honoured as much in the breach as the observance, consequently there is but a small minority of newspapers which can claim to have anything like a complete file of all their issues at the world-famed library.

It is worthy of note, therefore, that the *Veterinary Record* has been regularly filed and bound at the British Museum from its first issue of July 14th, 1888, to the present time—thus making a complete file of every issue of the paper published during this all-important span of veterinary research and development.

There is no doubt that when the paper first came into existence it supplied, to use a hackneyed phrase, "a long-felt want." Readers may be appropriately reminded that they can, if they should so desire, refer to old copies of the *Record* at the British Museum. It may also be added that amateur writers and publishers too often overlook the fact that they are now liable to a penalty of £5 for any publication a copy of which has not been forwarded to the Copyright Office of the Museum.

The Federation of Medical and Allied Services.

Speaking at the last annual dinner, Dr. Addison, in congratulating the Federation upon the progress made, said "it is a body whose aim is wide and public-spirited and marks a thoroughly wise departure from the usual purposes of professional associations." Recent developments have served further to emphasise this distinction from other organisations in the profession as well as to widen the scope of the Federation. Two special general meetings have just been held for the purpose of adopting certain resolutions involving additions to, and alterations in, the Articles of Association. Necessary formalities having been duly observed these changes now come into force. The general purpose they serve is to make the Federation in part an association of societies and in part also an association of individuals. Individual members are divided into two classes—Fellows and Associates—each electing representatives to the Executive Council. Any citizen concerned or interested in health is eligible for election as a Fellow or an Associate, the annual subscriptions being respectively one guinea and half a guinea, inclusive of the monthly journal *Health*. The position of the professional societies co-operating in the Federation remains unchanged. Their number has increased considerably and their representatives constitute the two professional Councils, one known as the "Medical Council" and the other as the "Council of Allied Professions." These Councils are the chief source of authoritative knowledge in the Federation.

To conform with these changes, for hitherto membership has almost entirely been confined to societies and kindred bodies in the medical and allied professions, the final word of the title of the Federation has been changed from "Societies" to "Services." Twelve months ago the initial steps were taken to form a "Citizens' Council" representative of lay organisations and individuals interested in the health of the nation, whose views would assist the professions to a full understanding of the needs

of the people. This Council also has made satisfactory progress, largely owing to the interest taken in it by Lord Islington, who has accepted the office of chairman. The hon. secretary of the Council is Mr. Henry Lesser, LL.B., President of the Federation of Employees' Approved Societies—one of the bodies co-operating in the Council. Valuable assistance has been offered also by the Federation of British Industries and other bodies representative of commerce and industry.

The objects of the Federation remain unchanged and may be stated as follows: To provide the means whereby societies and individuals in any way interested in health may meet to form and express, in the interests of the community, considered and collective judgment to guide the formation of public opinion; to protect the community against ill-advised or misdirected legislation affecting health and to assist in securing for the nation adequate representation in Parliament of professional opinion on health. With a steadily increasing membership, and a journal devoted to its interests, the Federation has, we believe, a sound prospect of seeing its aims realised.—*The Lancet.*

Canadian Cattle Embargo.

REPLY TO ALLEGED MISSTATEMENTS.

Professor Robert Wallace, of Edinburgh University, has sought to refute many alleged misstatements which have been made in the course of the controversy upon the Canadian Cattle Embargo. The following letter appeared in the *Manchester Guardian* of May 22nd:—

To the Editor of the "Manchester Guardian."

Sir,—There is great danger of the salient facts of this complicated question being lost sight of in side issues and misunderstandings, in the political cross-currents into which it has drifted. The following are a few of the numerous misstatements that have been made by interested people and combinations of middlemen, traders, and politicians, who, one and all, aim at personal gain, regardless of imminent dangers to the fundamental interests of this country, along with the plain and unvarished truth about each:—

1. That the admission of grazing cattle from Canada would lower the price of beef to the consumer 6d. and even 10d. per lb.—On the contrary, it would raise the price by introducing the uncertainty of an overseas supply that would cease with a rise in price in the U.S.A. markets, or in the event of war.

2. That there is an embargo against Canadian cattle.—There has been no such thing since the passing of the Act of 1896 forbidding the importation of all overseas graziers, but making no mention of Canada. Thousands of fat cattle are being regularly landed for immediate slaughter at our ports. They are fed more inexpensively in Canada than could be done here.

3. That there is food going to waste in this country that would feed Canadians.—There is no food to spare from home-bred stock, except very occasionally and locally, and in insignificant amounts in an abnormally good season. During the drought of 1921 and the late, cold spring of 1922 many of the home stocks were maintained on starvation rations and lost flesh. Canadians could only have been kept alive on imported food at enormous expense—an uneconomic and ridiculous position. Therefore, the introduction of store cattle from any source would only supplant home-bred cattle, and thereby reduce the resources of the country to the extent of their capital value.

4. That Canada wants to send, and is able to send, 200,000 store cattle annually.—When the ports were open before 1892 Canada never sent more than 50,000 store cattle in one year. There is no shipping accommodation for any such numbers, and the cost at present is prohibitive. Moreover, Canada does not guarantee any number of cattle. Her highest authorities are wisely against developing a live-cattle trade in competition with the chilled-meat trade, which is the only possible economic system. These views have been confirmed by the "Cattle King" of Canada, George Lane, of Calgary, as well as by Miss Hind, of the "Manitoba Free Press," who is in this country urging the opening of the ports, but merely as a temporary measure and in the forlorn hope that it would relieve the Canadian breeders' difficulty created by the recently imposed U.S.A. tariff of 33 per cent. Naturally, this lady takes no interest in the mischief this policy would do by stopping breeding in this country, thereby reducing the total number of cattle in the world and ultimately raising the price of beef.

5. Canada has been insulted by our not opening our ports to her cattle after her coming to fight for us.—Canada did not come to fight for us or for herself: she loyally came to fight for the Empire and for civilisation, and she has been grossly insulted by her noble aims being mixed up in a political squabble of an exceptionally sordid and discreditable description.

6. That as Canada has had no foot-and-mouth disease for years and her cattle are loudly proclaimed to be "the healthiest in the world" there would be no danger in opening our ports to her.—The danger is not only there, but is growing more and more urgent. Although she has no foot-and-mouth disease she has an ample share of tuberculosis and contagious abortion among her cows and sarcoptic mange among grazing cattle. Till the epizootic of a few months ago, Scotland by "great good luck" had been free from foot-and-mouth disease for years, although it repeatedly occurred in England. It is only by great good luck that Canada has so far remained free, as the disease has lurked in the United States for years, often in places unknown to a highly efficient Veterinary Department, and is overdue to break out at any moment in Canada.

7. That there is no fear of rinderpest, it being so far away as Brazil.—That in the opinion of the men on the spot there is danger of it spreading is proved by the establishment of a cordon of Argentine guards along the Brazilian boundary. That their fear is well founded is shown by the disease coming from Upper Silesia in spite of all the German military cordons and reaching London in 1865, to devastate our flocks and herds to the tune of many millions of money. No cordon on land can stop rinderpest, and, therefore, if our ports are opened to overseas cattle, it can only be a few years before it lands in this country, conveyed by a disease "carrier" that shows no evidence of its presence.

8. That the 1896 Act is a case of protection, which is contrary to the principles of free trade.—It is fundamentally a case of protection, not of the commercial type,

but (*a*) protection to the consumer of meat against profiteering prices easily controlled by middlemen rings in a speculative and uncertain market, and (*b*) protection of the stud farm of the world against the steadily growing danger of the most fatal of all bovine diseases, which on its certain arrival would take a toll of half, and it might be of three-fourths or even five-sixths, of our pedigree herds, and deprive the whole world of its fountain head of pure blood.

9. That there would be increased employment.—This is the most cruel attempted deception of all; for, while this revolutionary change would give an infinitesimal increase to the employment of butchers, it would inevitably swell the ranks of the unemployed by ruining the old Highland crofters and smallholders all over the country, as well as the most hopeful of the ex-service men recently settled on the land.

10. That it would be in the interests of the great majority of the people.—As already shown, the reverse would be the case. All disinterested people with technical knowledge of animal breeding and animal diseases, including official experts, are almost to a man arrayed against the proposal, while those who advocate it are admittedly without special knowledge, and base their claims upon aspirations which practical people know to be impossible. —Yours, &c., ROBERT WALLACE.

The University, Edinburgh, May 17th.

Foot-and-Mouth Infection and Man.

The *Lancet* deals in a recent issue with the question of the infectivity of foot-and-mouth disease to man, as follows:—

As regards the danger of infection to man, many cases have been reported where illness has occurred as the result of direct or indirect infection from animals suffering from the disease. The bulk of these cases are reported to have occurred in outbreaks following the consumption of milk from affected cows. Some of these outbreaks lack evidence of specificity, but in a certain number of them the symptoms described by different observers have presented a remarkably uniform clinical picture, closely resembling the disease in animals. They include aphthæ on the mouth, fingers, and toes, accompanied by pyrexia. The crucial experiment of successfully transmitting the disease from man to calf by inoculation has been reported on two occasions, by Schantyr* and by Bertarelli.† There can be little doubt, then, as to the transmissibility of foot-and-mouth disease to man.

The disease in man is usually described as running a mild course, followed by recovery in a week or ten days. Three of the epidemics described by Siegel‡ in Germany and Austria, however, had a high fatality. So far as cases in this country are concerned, a few outbreaks and isolated cases of a suspicious nature have been reported in the past. None, however, has been noted in recent years, nor has any suspicious illness been reported in connection with the present outbreak.

In view of these facts the question arises why the disease is not more commonly found in human beings, especially in connection with such an extensive outbreak as that which has prevailed recently in this country. There can be no doubt that innumerable opportunities for the infection of man have occurred during this period, for, although the protection afforded by the Ministry of Agriculture's policy of slaughter must be considerable, there is evidence to show that the milk is infectious in the very early stages of the disease and probably for some days before the appearance of the typical lesions. The complete immunity which our population seems to have experienced from any infection of the sort during this epidemic suggests very forcibly that the infectivity to man of the type of disease prevailing in Britain must be very low. On the Continent cases of supposed foot-and-mouth disease in man were very rarely reported up to 1872. In this year the disease in cattle assumed a malignant form and reported human cases became much more frequent about this time.

On account of the marked variation in the virulence and certain other features of foot-and-mouth disease, some authorities are inclined to regard it as comprising two separate entities. The form which has been observed of late years in this country, including the recent considerable outbreak, has been of the mild type, which might account for the absence of human cases in our population. Opportunities for estimating the mortality among cattle from this type of disease in England have been absent for obvious reasons. In South America, however, where the disease is allowed to run its natural course, the mortality is much greater during those seasons of the year when fresh grass and green fodder are not available and when the animal's food is restricted to hard and dry herbage, which, owing to the lesions in the animal's mouth, leads to wasting and death from starvation. In favourable seasons, on the other hand, comparatively few animals are lost as a result of foot-and mouth disease. Reports of continental outbreaks show a mortality varying from 2 per cent. to 50 per cent.

*Archiv. Verrinarinch Naouk, 1893, p. 87.
†Centr. f. Bact., 1908, p. 628.
‡Zeitschr. f. klin. Med., 1897, p. 147.

Hackney Horse Society.

PRINCE OF WALES AS PRESIDENT.

At a recent meeting of the Council of the Hackney Horse Society, the Prince of Wales was elected President for the ensuing year. His Royal Highness is thus following in the footsteps of his grandfather, King Edward, who, when Prince of Wales, took an active interest in the formation of the Society, and, in the year 1891, became its President. The Prince of Wales for two years won the Society's Challenge Cup for the best stallion in the Army horse-breeding class, with a fine grey called "Findon Grey Shales."

It was reported at the meeting that the results of the experiment in holding the Show this year at Doncaster were very gratifying. Expenditure and receipts practically balanced, and Mr. Nigel C. Colman, who presided, announced that it was proposed to make arrangements for holding the 1923 Show also in Doncaster.

SUPPLY OF DANGEROUS DRUGS TO AGRICULTURISTS.

Sir John Baird for the Home Office, told Mr. Hinds (Liberal, Carmarthen) that licences under the Dangerous Drugs Act had not been issued to agriculturists, but under an Order of last August, farmers and stock-owners could obtain a certificate from the police to obtain tincture of opium for the treatment of animals.

The Veterinary Record.

3rd June, 1922.

MEAT INSPECTION.

A memorandum on a system of Meat Inspection recommended by the Ministry of Health for adoption by Local Authorities and their officers has recently been issued. An attempt has been made to systematise the inspection of meat, and in so far as such an attempt is capable of attaining the object aimed for, we believe that these recommendations will be of service. Their value will lie chiefly in the direction of ensuring some degree of uniformity, both as regards the methods of inspection and the grounds for condemnation in those places in which facilities at present exist for the efficient inspection of meat, and until steps are taken to centralise the slaughtering of animals, little or no benefit can be experienced in the more thinly-populated areas. The significance of this statement may be appreciated from the following extract from the "Report on an Inquiry into an Uniform System and Standard of Meat Inspection in Scotland," by Lt.-Col. Gerald Leighton, Medical Officer (Foods) Scottish Board of Health: "Will it be believed that there are apparently no less than one hundred and thirty-six (136) slaughter-houses, divided amongst twenty-four counties, or county districts, in which it is admitted by the local authority making the return that no meat has ever been condemned, or that if it has, they have never heard of it?" In view of the fact as stated by Mr. Parker in his address at the Veterinary Inspectors' Conference at Folkestone last year that "Scotland is credited with having a better reputation than England and Wales so far as the application of meat inspection is concerned, one is bound to admit that not only are the public interests sadly neglected in this direction within the country, but that the public must be handling and consuming large quantities of diseased meat," it is obvious that while such recommendations as those recently issued by the Ministry of Health are a step in the right direction, their value can only be generally felt when power has been obtained to render possible their application on a more extensive scale.

Abstracts and Reviews.

Ceylon Veterinary Report.

The following passages occur in the report on veterinary administration in Ceylon for 1921, presented by Mr. G. W. Sturges, M.R.C.V.S., Government Veterinary Surgeon.

Rinderpest.—The Island was practically free throughout the year. At the close of the previous year the disease remained in two villages in the North-Western Province—the remnant of the 1919-20 outbreak. It was confined to these villages, there being 36 cases, with 23 deaths, 11 recoveries, and 2 shot, and was got rid of finally about May, after which the Island remained free; also the town of Colombo outside the Cattle Quarantine Station.

On October 28th five cases were reported at the Cattle Quarantine Station amongst buffaloes imported from India. Very drastic action was taken, and the same evening the affected animals were shot and buried, and the shed well cleaned down. Injection of anti-rinderpest serum for all cattle and buffaloes was commenced at once, and it was hoped there would be no further development. This hope was not realized owing to the previous action of the owners in distributing animals from the infected shed amongst the other animals on the premises with the object of escaping detention. In all 31 cases, mostly buffaloes, occurred, with twenty-one recoveries and ten deaths, including those shot. The outbreak was suppressed and the station opened again on November 29th. Careful watch was kept, and, as far as is known, the disease did not spread outside.

Foot-and-Mouth Disease.—This disease was prevalent in all Provinces, except the Northern and North-Central. 1,324 cases were reported, against 1,610 cases in the previous year. Of these, 1,170 recovered, twenty-one died, one was shot, and 132 remained ill at the close of the year. In Colombo town there were 107 cases; and fifty-four cases at the Cattle Quarantine Station.

This disease appears chiefly in the hot and dry dusty seasons, the north-east monsoon being especially a favourable season. It spreads with great rapidity over wide areas, like influenza amongst human beings. Amongst Eastern cattle the type is mild and evanescent. Fatalities are uncommon, and almost invariably due to neglect. Ordinarily recovery takes place in ten days. The routine treatment adopted is a saline purge on the earliest rise of temperature, alum lotions to the mouth, and dilute nitric acid internally daily for the first few days. Disinfectant fluid and water fairly strong (1 in 6) as a lotion to the feet, followed when dry by a disinfectant powder as Jeyes or Izal dusted on. The results are quite satisfactory.

Anthrax.—No cases were reported from the Provinces, but 397 cases occurred at the Quarantine Station amongst goats and sheep imported from South India, especially goats. These animals appear to be especially prone to this disease when crowded in transit. Before they start there is little disease, and they become clear in three or four days after arrival. But during the transit, and for the first three days after arrival, deaths are frequent; three, four, five, or ten occurring in a single night. Possibly these animals carry anthrax spores on their hair or in their digestive tract to a considerable extent, although no cases amongst them actually occur until crowded in transit.

Recently hair shaving brushes have been implicated in conveying anthrax to man. Undoubtedly the most stringent regulations should be enforced to have all such hair effectually sterilised before manufacture. There is, no doubt, very grave risk in connection with Eastern goat and sheep hair. Another curious point is that, although so many cases occur in the Quarantine Station amongst goats, no cases occur amongst the cattle brought over on the same ship. Further, I have not been able to obtain evidence of any cases of malignant pustule amongst the bare-bodied coolies carrying these animals from boats to ship, and ship to boats, utterly regardless of any precautions whatever.

Rabies.—Fifty-two suspected dogs were examined by the Director of the Bacteriological Institute, Colombo, fifteen of which were from Colombo town. Of these, thirty-three gave positive and fifteen negative results. Four were unfit for examination. Two hundred and forty-nine persons underwent protective treatment at the Pasteur Institute, Colombo.

Quarter Ill.—Nil.

Surra.—Nil.

Piroplasmosis (*Tick Fever or Red Water*).—Six cases in the Western Province and nineteen cases in the Central Province were detected during the year. The staff while travelling make a point of urging estate owners and villagers to keep their animals free of ticks, and explain the methods of dipping and spraying. The adoption of these methods is steadily increasing. The death of six head of cattle occurred in the Central Province by carelessness in using a dip too strong.

Three-day Fever (*Cattle*).—During the last few years a number of cases of fever amongst cattle resembling dengue fever in human beings were met with from time to time, especially at the outset of the north-east monsoon. This disease appears to be identical with the one met with in Egypt and Africa, and known as dengue—stiff sickness—or three-day sickness. Its cause is not known. The symptoms are high fever, 105° F. to 106°F., dulness, stiffness, lameness, and in some cases absolute inability to rise. Treatment with a saline purge immediately the illness is noticed, combined with rest, shelter, comfort, and liquid diet, has been uniformly successful. The temperature declines, and the symptoms abate on the third or fourth day.

Osteoporosis.—This disease continues to give much trouble, especially amongst the young racehorses imported, and is the only one causing serious loss amongst equines.

Swine.—There was no outbreak of disease during the year.

Canine Septicæmia (*Stuttgart Disease or Virulent Distemper*).—During the year quite a wave of this disease has passed over the Island affecting all classes of dogs. Reports have reached the office that in some villages the canine population has been practically wiped out.

On the Genus Cylicostomum.*

Last year (1920 *a*, p. 268) the author published an enumeration of the species of the genus *Cylicostomum*, and divided this genus into eight groups, of which three had been distinguished by Looss (1902, pp. 130-132). Since that time some new species have been described. Moreover, he thought it necessary to modify somewhat the groups, so that he now divides the *Cylicostomum* species as follows:—

I. *Tetracanthum-coronatum* group.

The external leaf-crown is composed of eighteen to twenty-four elements; those of the internal leaf-crown are thin, triangular plates, the place of origin of the latter extending in a backward direction to some distance from the anterior margin of the mouth-capsule. Mouth-capsule rather short. Posterior extremity of the female straight or slightly bent in a dorsal direction.

1. *C. tetracanthum* (Looss), 1902, p. 124.
2. *C. labratum* (Looss), 1902, p. 124. H.*
3. *C. ornatum*, Kotlán, 1919, p. 10.
4. *C. labiatum* (Looss), 1902, p. 125.

4*a*. *C. labiatum* (Looss) var. *digitatum*, n. var. H.

5. *C. sagittatum*, Kotlán, 1920, p. 4.
6. *C. coronatum* (Looss), 1902, p. 125. H.

* The species occurring in Holland are marked H.

II. *Alveatum-catiatum* group.

The external leaf-crown consists of twenty to twenty-nine elements; those of the internal leaf-crown are similar to those of the first group. Posterior extremity of the female strongly bent in a dorsal direction, with a swelling before the vulva, so that it reminds one of a human foot, seen laterally.

7. *C. alveatum* (Looss), 1902, p. 127.
8. *C. catinatum* (Looss), 1902, p. 128.

8*a*. *C. catinatum* (Looss), var. *litoraureum*, Yorke and Macfie, 1920, p. 166.

9. *C. pseudocatinatum*, Yorke and Macfie, 1919, p. 273. H.
10. *C. pateratum*, Yorke and Macfie, 1919 *a*, p. 57 (=*C. cymatostomum*, Kotlán, 1919, p. 11). H.
11. *C. goldi*, Boulenger, 1917, p. 210. H.
12. *C. tridentatum*, Yorke and Macfie, 1920, p. 153.
13. *C. mettami*, Leiper, 1913, p. 460.

C. tridentatum and *C. goldi* are evidently closely allied species, as I found the three teeth of the œsophageal funnel of *C. tridentatum*, described by Yorke and Macfie, also in *C. goldi*. They are visible only in thoroughly transparent specimens with clean mouth-capsule.

It seems to the author that *C. pseudocatinatum* must be considered a variety of *C. catinatum*. The former does not differ more from *C. catinatum* than does *C. catinatum* var. *litoraureum*, Yorke and Macfie. Both differ from *C. catinatum* in the appendages of the genital cone. Moreover, the appendages of *C. catinatum litoraureum* are more like those of *C. pseudocatinatum* than like those of the typical *catinatum* form. So when we consider *litoraureum* a variety as Yorke and Macfie do, this also applies to *pseudocatinatum*.

III. *Radiatum-elongatum* group.

Mouth-capsule with a hoop-like thickening at the posterior margin. Elements of the internal leaf-crown generally small and numerous, originating close to the anterior margin of the mouth-capsule. Posterior extremity of the female straight, or slightly bent in a dorsal direction.

14. *C. radiatum* (Looss), 1902, p. 129.
15. *C. triramosum*, Yorke and Macfie, 1920, p. 195.
16. *C. elongatum* (Looss), 1902, p. 129. H.

16*a*. *C. elongatum* (Looss) var. *Kotláni*, Ihle, 1920, p. 269 (=*C. elongatum* var. *macrobursatum*, Kotlán, 1920, p. 6). H.

17. *C. insigne*, Boulenger, 1917, p. 207. H.
18. *C. zebrae*, Boulenger, 1920 *a*, p. 102.
19. *C. adersi*, Boulenger, 1920, p. 30.
20. *C. nassatum* (Looss), 1902, p. 128.

20*a*. *C. nassatum* (Looss), var. *paryum*, Yorke and Macfie (1918, p. 400). H.

21. *C. leptostomum*, Kotlán, 1920, p. 3. H.
22. *C. auriculatum* (Looss), 1902, p. 130.

The female of the last mentioned forms a transition to the *alveatum-catinatum* group by the form of its posterior extremity.

In this group I now also include *C. leptostomum*, Kotlán, a species about which Kotlán published a description in Hungarian only; the author was so kind, however, as to send me a German translation. *C. leptostomum* is closely allied to *C. nassatum*, from which it is distinguished by the posterior extremity of the female being straight.

IV. *Calicatum* group.

Mouth-capsule mostly cylindrical or trapezium-shaped in optical section. Elements of the internal leaf-crown mostly short and implanted in the immediate neighbourhood of the anterior margin of the mouth-capsule. Posterior end of the female mostly straight.

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* Of late, some authors (Railliet, Travassos) use, instead of the name *Cylicostomum*, the genus-name *Trichonema*, which ought to be used according to the law of priority. In 1874, Cobbold (*Veterinarian*, Vol. XLVII., p. 85) described under the name *Trichonema arcuata* larvæ of *Cylicostomum*. One year later (*Veterinarian*, Vol. XLVIII., p. 241) he established the fact that this *Trichonema* is the larva of "*Strongylus tetracanthus*," the present genus *Cylicostomum* Railliet. As, however, the law of priority must be applied "when any stage in the life-history is named before the adult," and the name *Cylicostomum* (Railliet, *L'Echo Veterin.*, Vol. XXXI., p. 40) is used in 1901 for the first time, *Trichonema* ought to be used.

It does not seem advisable to me in this, nor in the like cases, to adhere to the rules of zoological nomenclature, when, owing to this, a completely familiar name would be replaced by one still entirely unknown. Neither did I always adhere to the law of priority in my revision of the Trematodes, Cestodes and Nematodes of domestic animals, in the third edition of Sluiter and Swellengrebel, "De dierlijke parasieten van den mensch en van onze huisdieren."

23. *C. calicatum* (Looss), 1902, p. 127. H.
24. *C. minutum*, Yorke and Macfie, 1918, p. 405 (= *C. calicatum* var. *minus*, Kotlán, 1920, p. 6). H.
25. *C. longibursatum*, Yorke and Macfie, 1918, p. 400 (= *C. calicatiforme*, Kotlan, 1919 *a*, p. 559 = *C. nanum*, Ihle, 1919, p. 720). H.
26. *C. hybridum*, Kotlan, 1920, p. 5.
27. *C. poculatum* (Looss), 1902, p. 126. H.

The last mentioned species differs considerably from *C. calicatum* (*e.g.*, in the bursa, which is closed all round and has a finely denticulated border), so that Looss (1902, p. 132) did not group them under one head.

V. *Euproctus-bicoronatum* group.

The external leaf-crown mostly consists of numerous slender elements; the elements of the internal leaf-crown are extremely large. The posterior extremity of the female is straight.

28. *C. euproctus*, Boulenger, 1917, p. 204. H.
29. *C. bicoronatum* (Looss), 1902, p. 125. H.
30. *C. ihlei*, Kotlán, 1921, p. 300. H.
31. *C. ultrajectinum*, Ihle, 1920 *a*, p. 269; 1921, p. 372. H.

For the present, some heterogenous elements are taken together in this group, characterised by the possession of very large elements of the internal leaf-crown.

C. ihlei is closely allied to the genus *Poteriostomum* in structure of mouth-capsule and leaf-crowns. The fact, however, that the bursa copulatrix of this species shows the typical characteristics of *Cylicostomum* and differs from that of *Poteriostomum*, supports the opinion, shared by Yorke and Macfie (1920, p. 159), that *Poteriostomum* must be considered an independent genus contrary to Kotlán's view (1921, p. 299).

Formerly, I considered *C. ultrajectinum* to belong to the *radiatum-elongatum* group, with which it agrees in the thickened posterior margin of the mouth-capsule, from which it differs, however, in the size of the elements of the internal leaf-crown. It is, however, also considerably different from the other species of the *euproctus-bicoronatum* group in size and number of the elements of the external leaf-crown. Yorke and Macfie (1920, p. 162) expressed the opinion that *C. ultrajectinum* might belong to the genus *Poteriostomum*. It has become evident, however (Ihle, 1921, p. 372), that the bursa copulatrix resembles that of the other *Cylicostomum* species in every respect, so that it is certain that this species belongs to the genus *Cylicostomum*.

VI. *Brevicapsulatum* group.

Mouth-capsule extremely short. Posterior extremity of the female straight.

32. *C. brevicapsulatum*, Ihle, 1920, p. 562. H.
33. *C. prionodes*, Kotlán, 1921, p. 305.

These two species differ considerably, but they can be grouped together for the present.

VII. *Montgomeryi* group.

The dorsal and ventral walls of the mouth-capsule are much longer than the lateral walls.

34. *C. montgomeryi*, Boulenger, 1920 *a*, p. 104.

The author concludes by describing a new variety of *C. labiatum* (Looss), of which he found a small number of specimens in the large intestine of the horse in Holland.

Cylicostomum labiatum (Looss) var. *digitatum*, nov. var.

The new variety agrees in the main (mouth-collar, mouth-capsule) with the typical form.

Male 7 to 8 mm., the immature female 8 to 8¼ mm. long. Oesophagus 345 to 410μ long. The bursa copulatrix has a dorsal lobe, which varies in length and is mostly longer than in the typical form. The distance from the extremity of D3* to the point of origin of the postero-external ray varies from 310μ to 380μ. The posterior part of the dermal collar shows the processes occurring in the typical form. The chief difference from the typical form is that the new variety shows finger-like processes on both sides of the posterior part of the genital cone, which are absent in the typical form. The number and form of these processes perhaps fluctuate. (In one case he counted three on each side.) The posterior extremity of the female is like that of the typical form. The distance from the vulva to the anus is smaller however (ca. 95μ) than in the typical form; the distance from the anus to the posterior extremity is 86μ to 110μ, measured along the axis of the body. The conical end of the body is bent somewhat in a ventral direction.

* The short stem which the dorsal rays have in common I name D0, the two main trunks D, the side branches, from before backwards, D1, D2, and D3. In *Cylicostomum* D3 forms the immediate continuation of D.

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—— —— (1920). *Idem*. IX. *Cylicostomum tridentatum*, sp.n.; X. On the genus *Poteriostomum* (Quiel). XI. Species found in West Africa and Jamaica; XIII. *Cylicostomum tiramosum*, sp.n. *Ibid*, Vol. XIV.

Tuberculosis Immunizing Vaccine.

Since 1906 human, bovine and avian tubercle bacilli have been subcultured by the author every month. The present growths represent the 184th generation. The growths are still luxuriant and true to type, but they do not produce tubercles and are completely non-pathogenic to animals. The pathogenicity has been tested every year. No change was noted until the 94th generation. After that time attenuation became marked, and after a year or two the cultures were avirulent. Treatment of disease by vaccines prepared from attenuated organisms naturally means that the production of antibodies will take place rapidly without any preliminary shock to the system, such as invariably follows the injection of vaccines prepared from virulent strains of bacteria. With a view to elucidating the real amount of tuberculosis in man caused by the human and bovine types of bacilli, and also as to immunity produced by one infection toward the other, Raw instituted clinical observation on a large scale in a Liverpool hospital of 900 beds, of which he had charge for eighteen years. In no case of primary pulmonary tuberculosis did he observe, during the course of the illness, tuberculosis of bones, joints, glands or skin, nor any instance of meningitis. Among the surgical cases of tuberculosis, 28 developed lung symptoms and 25 died. In all cases the infection of the lung was either by direct extension from cervical lymph nodes to the apex of the lung, or from a primary focus in the abdomen extending upward through the diaphragm to the bronchial nodes and lungs. This large clinical experiment convinced Raw that the human body is attacked by two quite distinct forms of tuberculosis: the one conveyed from person to person by direct infection and attacking chiefly

the lungs, and the other conveyed by milk from tuberculous cows, and developed in the first few years of life. These two diseases are caused by different types of tubercle bacilli which will not live in the body at the same time; and one disease produces immunity to the other. Hence, Raw always uses a vaccine prepared from bovine cultures in the treatment of the human infections and vice versa. The vaccine which he has had prepared from his attenuated cultures is an emulsion of the bacilli, and contains all the products of the bacillus. It is non-toxic and avirulent, and produces no reaction even in large doses. For purposes of immunisation in susceptible children, six injections are given at weekly intervals. This course is repeated in three months. The doses recommended are 0·001, 0·002, 0·003, 0·004, 0·005, 0·006 mgm. No symptoms have been observed to follow these injections. In the treatment of the active disease the doses are much larger than have been possible up to now. At least twelve injections should be given at intervals of seven days in doses increasing from 0·001 to a maximum of 0·025 mgm. The vaccine should be freshly prepared from the cultures, and should not be used after one month. It can be used with complete safety in any stage of the disease, and even in advanced cases great relief from night sweats and toxic symptoms have been noted. The results in suitable cases are excellent. Raw has succeeded in immunizing completely highly susceptible animals by the use of attenuated cultures, and he firmly believes that if all children with a tuberculous history could be safely vaccinated in the manner described they would be placed in a better position to resist infection at home.

[Tuberculosis Immunizing Vaccine. N. Raw. *Brit. Med. Jour.*, 1921, No. 3147, p. 594. Abs. in *Amer. Rev. of Tuberc.*, vol. 5 (1921), p. 119.]

Distemper in the Pig.

This paper discusses an epidemic among pigs of what the author terms distemper. The origin of the infection was traced to newly-purchased sows which were suffering from mild "colds," thought to have resulted from the train journey. However, in about a fortnight after the first of these sows had farrowed the disease broke out among their pigs in a very severe form. Later the infection spread quite generally to all the young pigs in the piggery.

The symptoms in the older animals were usually mild, consisting of lack of condition, a soft, husky cough, and sometimes a definite paresis of the hind quarters. Recovery was the rule. In young pigs the symptoms were much more marked and the mortality was high. There was sneezing, eyes reddened, mattery, and lids gummed together; discharge from the nose, and a husky cough. In some cases there developed red papules on the skin, which later became tipped with scabs. In late stages of the disease there was slight diarrhœa and sometimes paralysis, particularly of the hind quarters. The sick animals had a "doggy" smell similar to that present in distemper of dogs.

Post-mortem examinations on a number of pigs showed quite constantly pneumonic lesions of greater or less extent. No pathological alterations were found in the abdominal organs. Bacteriological examination of the trachea and lungs yielded cultures of the distemper organism (*Bacillus bronchisepticus*) in all cases. The heart blood was sterile.

The disease was effectively controlled by enforcing strict sanitary measures. These included frequent spraying of walls of sties, passages of pig houses, etc., with hot lime wash; confining pigs to their own sties; removing sows about to farrow to a clean, lime-washed house; avoiding transferring infection on utensils, feed, and person of caretaker; keeping dogs and cats out of pigs' houses; killing off hopelessly ill pigs. In addition to these, a vaccine prepared from various strains of the distemper organism was used. It was recommended that pigs should be injected about four days after their birth.

[Distemper in the Pig. J. P. M'Gowan. *Scot. Jour. Agr.*, vol. 3, No. 4, p. 407.]

Death from Air Embolism.

A twelve-year-old mare badly afflicted with laminitis, that had given birth to a dead foal 24 hours previous, was treated by venesection, among other things, and two hours later by inflation of the udder with air.

A few hours before the placenta was removed manually and metritis was apparently now developing. In addition, evidence was found of insufficiency of the heart's action. Shortly after the infusions were started the horse became very uneasy with difficult respiration and the air infusion was stopped forthwith.

The condition became worse, and in the course of five minutes the animal was dead. It was observed by auscultation that the animal, while dying, gave forth gurgling heart sounds, and upon *post-mortem* examination the right heart was found to be expanded with air.

The experiment with air infusion in this case was resorted to because of theories advanced. Pomayer seemed to think that the cause of parturient apoplexy is primarily an insufficiency of the heart's action, and he explained the good effect obtained from the air infusion through the fact that the air after having passed the lymph channels finally will reach the heart in a free state, and then acts as an excellent heart stimulant, and further because Bisange seemed to think that the cause of laminitis following parturition was primarily due to a weakness of the heart.

The interesting part of this case is primarily this—how this quantity of air reached the heart and what the real cause of death by air embolism in this case was. Regarding this latter question, the writer states that heartinsufficiency and venesection possibly were contributory factors.

In regard to the occurrence of the embolism there are several possibilities considering the acuteness of this attack and the small expansion that occurred during air infusion.

The writer is inclined to think there was some lesion present in the udder that had provided a communication between the milk gland and the blood vessels.

Upon *post-mortem*, however, such could not be shown. Another thought was that analogous with the condition of the lung was the possibility of a communication between the udder alveoli to the capillaries by diffusion brought about and the relatively high pressure. Finally, Pomayer's viewpoint is that the air in a similar manner or mechanically may enter through intracellular defects, through the lymph channels to the blood vessels.—Erickkson, in *Svensk Veterinaridskrift.*

Testing a Trypanocide.

Phenylglycine amido arsenate of sodium can be used in freshly prepared solutions in distilled water for intraperitoneal injection into rats and mice; the solutions on standing become toxic, and later become yellow in colour.

For rats, the minimum lethal dose of the freshly prepared drug proved to be 1·2 gm. per kilo of body weight.

For rats infected with *T. brucei*, the minimum curative dose is 0·7 gm. per kilo of body weight.

In vitro the drug has no appreciable action on trypanosomes, nor has the blood of treated animals immediately (twenty-four hours) after becoming trypanosome-free.

The drug has no curative effect on mice infected with *T. rhodesiense.*

A remarkable feature of this drug is its relatively high minimum lethal dose. Although the drug contains 26 per cent. arsenic, the minimum lethal dose was found to be 1·2 gms. per kilo for rats and 3 gms. for mice.

[The Trypanocidal Effect of Phenylglycine Amido Arsenate of Sodium on *T. Brucei* in Rats and *T. Rhodesiense* in Mice, by S. Adler, M.B. *Annals of Tropical Medicine and Parasitology*, Vol. xv., No. 4, Dec. 30th, 1921.]

Clinical and Case Reports.

The Editor will be glad to receive from members and others contributions to this column of reports of interesting cases.

Oral Administration of Chloroform to Cattle.

By J. Park Hamilton, M.R.C.V.S., Gwelo, S. Rhodesia.

There is no special difficulty in giving chloroform as an anæsthetic in cattle practice, but sometimes the want of an assistant to administer the anæsthetic prevents us using it as often as we would wish.

I have found that a very effective narcosis can be produced by giving the animal chloroform as a "drench," and the results are so good that I use this method now by preference.

For some years I have preferred giving chloroform—one ounce in a pint of water—rather than chloral, and have had excellent results by using it in cases of straining after calving and before attempting to replace a *prolapsus uteri*.

This treatment led me to consider giving enough chloroform this way, to obtain a sufficiently deep narcosis for operations, and the results have justified its use.

Recently I have done some twenty ovariotomies; in two cases upon young heifers, and the remainder old cows.

The young heifers, about a year old, were given one ounce of chloroform in a pint of water (in these cases the lateral operation was done), and a complete narcosis lasting over half-an-hour resulted. The cows were all operated upon by the vagina, which is a much quicker and simpler operation, and in this case they were given two ounces of chloroform in a pint of water, and the resulting narcosis was sufficient.

Lately I had a very painful operation on a valuable pedigree cow. One eyeball had been destroyed and the wound had become infected with "screw-worm," so that the whole orbit required to be cleaned out and all diseased tissue removed. I gave this cow two ounces of chloroform in a pint of water, and the narcosis was very satisfactory, considering that the region of the eye is the most sensitive part of the body upon which to operate.

This chloroform drench is given after the animal is thrown, and by the time the part to be operated on is prepared for the operation, the patient is under the influence of the drug. After the operation the animal is allowed to get up, but usually does not do so for a few minutes. When it first rises it frequently shows signs of chloroform intoxication, by an unsteady gait and rolling; this, however, passes off quickly, and I have never observed any other after-effects.

Regarding the physiology of chloroform narcosis by absorption from the stomach, I have no theories to offer except that as the surface of the ruminant stomach is large, so, accordingly, is the absorption rapid. However, I am not writing theories; I am writing of something which has been useful to myself and I hope may prove so to others.

Ileo-Cæcal Invagination with Adhesions.

By T. H. Hankin, B.V.Sc., M.R.C.V.S., Auckland, N.Z.

Subject.—A Clydesdale mare, five years old. The owner called me in to examine the animal on the grounds that she was not herself.

History.—Colicky pains a week previously, due, the owner said, to a "chill in the kidneys," for which he had given several doses of oil, spts. æth. nit., pot. nit., etc., etc.

Symptoms.—On examination I found the mare picking hay; pulse, temperature and respiration normal; to all appearances a healthy, somewhat phlegmatic, animal. The owner, however, said that normally she was inclined to be spirited, but as bowels were relaxed, I put dulness down to excessive drugging. I asked to be informed if the mare's condition remained unsatisfactory, and four days later slight colicky pains again occurred (of which the owner later told me). These lasted for a further three days, when the mare became violent, and I was asked to come at once. On my arrival colicky pains were evident, and on examination per rectum the colons were practically empty, and diarrhœa had set in, and the animal had a very "tucked up" appearance. Temp. 103·4°; pulse 70. I diagnosed "Obstruction of bowel," having in mind a concretion similar to those we used often to meet with in France

Prognosis.—Death. The mare died eight hours later.

Post-mortem.—The floating colon, large colon and cæcum were practically empty, small intestine normal. I was beginning to feel rather foolish until, on arriving at the ileo-cæcal valve the "obstruction" was located. The ileum had invaginated into the cæcum to the length of two inches, where the whole had formed adhesion, until the lumen of the ileo-cæcal opening had been reduced to under half an inch in diameter. There was no acute inflammation and the adhesions were perfectly formed.

Cæsarean Section in Swine.

To be practical, the operation will be described as performed on the farm. In cases of dystokia it is necessary to decide to operate early if the procedure is going to be successful. A few points will be mentioned to help one in deciding when to operate at once and when to attempt the slower method of delivery.

All cases in which the birth canal is found to be too small should be operated on at once, while cases of slow uterine contractions can often be relieved by the use of pituitary extract. Cases of dystokia due to abnormal presentation of the fœtus can be relieved without an operation.

If the sow has delivered quite a number of pigs it is permissible to attempt delivery through the birth canal. On the other hand, the same kind of sow with no pigs by her side should be operated on at once.

When not to operate:—

(1) When there is a complication of an infectious disease.

(2) When the sow is badly lacerated by the improper use of instruments.

(3) When the case has advanced so far that gas is present in the uterus. Gas, in my experience, is sufficient to spoil all chance of a successful operation.

No certain time limit can be put on the time between labour setting in and when it is too late to operate. Each individual case must be decided on as it is presented, the history, symptoms, etc., being an aid in deciding on the prognosis. Never operate when there are no pigs in the uterus, as it is rather embarrassing; at least, that is my experience.

An operation decided upon, sterilize the following instruments: Scalpel, probe-pointed bistoury, a pair of blunt-pointed curved scissors, several artery forceps, pincers, needle-holder, needles, vulsellum forceps, suture material, sterile linen thread. An antiseptic solution and a white cloth to cover the field of operation should be on hand.

Provide a temporary operating table out of anything available; a couple of saw horses with an old door or scoop board on top, or a crate laid on its side. Never operate on the floor, as you will be badly handicapped.

When the sow is in the nest, give her morphine sulphate hypodermically, from 1 to 3 grains, according to her size, so it will be acting by the time you are ready to operate.

Place the sow on the table, and fasten her securely, the front legs and under hind leg. The upper hind leg can now be held backward by one man.

Clip the hair and shave from the region of the flank, and paint with tincture of iodine. Wring out the white cloth from the antiseptic solution, and cover the entire side of the sow with it. Cut a hole through the cloth to expose the operative area.

Make a bold incision through the skin down to the muscle, about 8 or 10 inches in length. Divide the muscles in the direction of their fibres. Incise the peritoneum. Reach in and bring out the entire cornua. Make the incision into the horn as near as possible to the body of the uterus. Remove the fœtuses with the aid of vulsellum forceps. Grasp each pig, whether dead or alive, firmly with the forceps, as it can be done more quickly in that way. Return the empty horn, keeping the incision in it to the outside.

Bring out the lower horn, and if the pigs can be readily removed from the first incision, all well and good; if not, after closing the incision in the first horn, make a new incision wherever convenient in the last horn. Do not waste time by trying to deliver the pigs through one opening in the uterus. If the fœtal membranes come away readily, remove them; if not, leave them. In many a case where it was impossible to remove the membrane it was left. They are always found behind the sow in a few hours.

Close the uterine incision, using a Lembert's bowel stitch. Replace the horn, make a manual exploration of the abdominal cavity to see if both the cornua are in place and if any pigs have been left behind. Suture the peritoneum, using a continuous suture. The muscles will come into position, but a stitch may be put in to keep them in position. Unite the skin with four interrupted sutures, started well back from the edges of the incision, leaving a slight opening at the lower end of the wound for drainage if necessary. Sponge dry and paint with tincture of iodine. Apply a dry dressing of iodoform and boric acid.

Place the sow in a clean, dry, well-ventilated pen. She will probably not care what happens for from 12 to 24 hours. Provide fresh water. After 24 to 36 hours give sweet milk or other nourishing food. Remove outside stitches in from four to five days.

In closing, let me emphasise a few points which are firmly impressed on my mind. A great deal of judgment is required in selecting cases to be operated on, as there is no chance of building a reputation on a fatal case—at least not the kind of reputation we are after.

As to an anæsthetic, do not operate without some agent, for if you do, many hopeful cases will die of surgical shock. In my work without competent help a general anæsthetic was dropped as impracticable. For a time nothing was given, with the results mentioned above. When I started with morphine hypodermically my percentage of successful cases rose at once.

The more speedily the operation is performed the better the results. Make sufficiently large openings so as not to be handicapped in time.

Above all, use antiseptic precautions. Choose the cleanest place available for the operation, which may be out in the open.

As to the percentage of successful cases, if you select the cases you can have 65 or 70 per cent. of recoveries. Often I am influenced by the farmer in operating, but I am satisfied that if you select the better cases the successful results will be at least 70 or 75 per cent.—W. E. MACKLIN, *in the Journal of the American V.M.A.*

Association Reports.

National Veterinary Medical Association.

QUARTERLY MEETING OF COUNCIL.

The report of the last quarterly meeting, as published in the issue of May 13th, inadvertently omitted the names of the following members who were present: Major P. J. Simpson, Messrs. J. Abson, T. Lepper, G. P. Male, W. D. Rees, F. Willett and W. Woods.

Lancashire Veterinary Medical Association.

ANNUAL MEETING AND DINNER.

The annual meeting of the above Association was held at the Grand Hotel, Aytoun Street, Manchester, on 27th January, 1922. The chair was taken by the President, Captain F. Hopkin, and the other members present were Messrs. Wright, Taylor, Whitehead, Noel-Pillers, Brittlebank, Dobie, Woods, Hughes, Stent, Lord and Spruell.

Apologies for unavoidable absence were received from Messrs. Howe, McKinna, Carter, Clarkson and Wood.

It was resolved that the minutes of the last annual meeting be taken as read.

Mr. Joseph Urmson, M.R.C.V.S., Great Moor Street, Bolton, was nominated for membership of the Association by Mr. G. Mayall, M.R.C.V.S., Bolton.

PRESIDENTIAL ADDRESS.

Captain F. HOPKIN then delivered his address from the chair as follows:—

Gentlemen:—In considering on what subject I should direct my thoughts for the remarks I am to make to you this afternoon, I have been impressed by the fact that broadly speaking the questions which exercised the minds of the profession yesterday are those that are with us to-day, and one may form some idea in which direction the past legislation has benefited the greater number to the greater degree. True there are certain questions on which one cannot help but wonder if we have made the headway that we should. I am afraid that in the past I have been a delinquent in this direction, I mean in not putting the energy one might into furthering the cause of our various societies and making them the success that they should be. I think that our late President,

Mr. A. W. Noel-Pillers, F.R.C.V.S., is to be congratulated on the marked improvement he has made, not only in the membership roll, but in the attendances at the meetings. I must confess, however, that when the date arrived stating the number of members that were going to be present at the dinner I was more than disappointed. I ask you not only to do your best in the future to make the coming year a success for the Lancashire Veterinary Medical Association by taking an interest in the meetings personally, but also to get as many as possible of those amongst our members who are not in the habit of coming to our meetings to attend them, and if you know any professional brethren who are not members to get them to join.

Circumstances have, perhaps, changed the prospect of the profession more during the last two or three years than they have ever been changed during its history, and there is no doubt that we are alive to the fact and have done a great deal to keep pace with the changes, but still more is required, and this must start at the commencement of our education.

That the future work of the veterinary surgeon is to fit himself to open up a field of a more scientific nature there can be little doubt. By that I mean that the major portion of the profession will have to fit themselves for research work, colonial appointments, government and municipal inspectorships, in competition with other sources of supply, and as the entrance examination and increased period of study has benefited us in the past, so I feel sure it will do in the future, and the time has come when a survey should be taken of our entrance examination to see if it is up to the required standard of the times, and if it could not be so arranged as to relieve some of the subjects in the first year of the college curriculum.

There was a great amount of benefit derived to the student through the free clinique, but this must have very largely diminished, and it is a question whether our schools of learning could not with marked advantage move from their present positions more to the centres of agriculture, where such subjects as animal management and the science of breeding could be more practically taught. I think I am correct in stating that in certain continental countries before a student is accepted at college he has to show that he has a sound knowledge of animals in health. This is a point which demands our very serious attention. I feel sure that no one will differ with me when I say that one of the primary essentials to the development of a successful veterinary practitioner is that he shall have a practical knowledge of the domesticated animals in health. This is a matter of far greater importance than some are prepared to admit, but when it is realised by many of us practitioners that we have come across veterinary surgeons who have admitted that they have never witnessed the normal act of parturition in our larger animals, it is surely time for us to call a halt and review the position in which we find ourselves. There are many occasions which present themselves, which count for much in the lay mind where we are called upon for advice not directly concerning diseases but in an advisory capacity, either to improve stock from a breeding point of view or in matters of hygiene or dietetics, and unless we know our subjects in health we are not going to command the regard and esteem that we might otherwise do, and I certainly am of the opinion, therefore, that there exist certain defects in our professional education which may be held to be directly responsible for the position in which many find themselves to-day. The demands for a general practitioner are not as great now as they have been in the past, and a man entering our profession will probably benefit himself to a greater degree if he at the end of his ordinary college studies specialises to fit himself for the particular branch of the profession which he feels he is most suited to pursue. This position has been largely adopted, and, instead of making a compulsory five years' course, there are the different post-graduate courses, which enable a man to finally concentrate on the particular subjects he has desired to adopt for his special attention, thus obviating the extra compulsory expense of a five years' curriculum and allowing him to devote the whole of that fifth year to subjects specially selected.

I raise these points fully recognising the great work done by our colleges, and any criticism which I venture upon is levelled in no carping spirit, for we know that many outside our profession, and I regret a few in it, are quite ready to reform everything, but we must see that our one portal system, which is the envy of many other scientific bodies, remains inviolate. We are quite capable of putting our own house in order, and we do not require the interference of outsiders.

There is another subject which I have very much at heart, and bring to your notice to-day—not only to your notice, but to that of the whole profession—and that is the National Veterinary Benevolent and Mutual Defence Society. The reasons for so doing are, I think, obvious to all of you, but may I remind you that this society was originally formed by those who originated the Lancashire Veterinary Medical Association. But the Benevolent and Defence Society is in no sense a purely Lancashire Association; it is, indeed, as its title indicates, national.

The subscription is only a small one, and I venture to suggest that there are very few members of our profession who cannot afford even 10/6 per year for the assistance of those who cannot help themselves. The tragedy underlying many of the cases now receiving our help is probably only known to a few, but believe me when I tell you that if only the profession at large knew what it is our sorrow to know, there would be no necessity for me to remind you of your duty and, may I add, privilege.

So far as concerns the Defence Branch of the Association, much is done of which the majority of the members of the profession know nothing, and I cannot for the life of me understand why every practising member of our profession has not already joined; for is there any one of you who can say that you are free from all risk of any action a litigious client may choose to bring against you for something

which you may not only find difficult, but extremely costly to defend ?

I am going to try and be at your service during my year of office, and if you will only give me the support that you have given the presidents in the past, I think the society will continue to be as prosperous as it has been. (Applause.)

Mr. W. A. Taylor, F.R.C.V.S., said it was with great pleasure that he rose to propose a vote of thanks to the President, Captain F. Hopkin. Throughout the whole of his address the thought of his father came vividly before his mind, and it was with the greatest pleasure that he rose to propose that the best thanks of the Association be tendered to the President for the admirable address he had placed before the meeting, and not only before the meeting, but before the profession. He thought that it would show that in Lancashire at least they were alive to the interests of the profession as a whole and of the members of that society individually. He thanked Captain Hopkin also for his allusion to the benefits that are derived from the National Veterinary Benevolent and Defence Society, and supported him in his statement with regard to it, that a considerable number of the profession were ignorant of the good that it did in a quiet way. He did not feel that he could say any more, except that he was pleased to see Captain Hopkin in the position his father once occupied.

Mr. Wm. Woods, F.R.C.V.S., said he had great pleasure in seconding all Mr. Taylor had said.

Captain F. Hopkin, M.R.C.V.S., thanked the meeting for their kind remarks. Mr. Taylor's allusion to his father had touched him deeply. He was closely associated with the Lancashire Veterinary Medical Association, and he regretted his father did not live long enough to be with them that evening.

R.C.V.S. Council Nominees' Views.

Mr. R. Hughes, F.R.C V.S., in connection with his nomination as a candidate of the Lancashire Veterinary Medical Association for the Council of the Royal College of Veterinary Surgeons, thanked the members most sincerely for extending their mark of appreciation to him. He regretted that he had not been a regular attender at the meetings, but he knew they would take into consideration the distance which he lived from Manchester. He, however, regretted that the honour bestowed upon him was not placed in abler hands, and as it had been decided that he should be one of the nominees from the Lancashire Veterinary Medical Association, he was prepared to do all he could ; on the other hand, if there was a younger man who was willing to stand, he would be very pleased to do all he could to support him. They all knew that the present crisis in the profession was a very important one, and since motors have replaced the horse it had made a difference in the practices of practitioners to a certain extent. He had always had great pleasure in thinking that the Council of the College was formed from different members of the profession, and he thought that there must be a great deal of collective wisdom and care directed to their interests.

He looked upon it that the diploma of the Royal College of Veterinary Surgeons should be the minimum guarantee that a man should be allowed to practise, the minimum that the owner of the animal should accept, and for that reason he thought one portal system was to be desired. He did not think the universities had the equipment or the opportunities for practical training that they had at their schools. If he had to be a nominee and he was successful in getting on the Council, he would keep an open mind, and would devote time to their interests and attend the meetings. He had been for a considerable number of years doing his best to uphold the dignity and the standing of the profession, and intended to continue so. In conclusion, he thanked the Association very much for the kindness they had extended to him.

Lieut.-Col. J. W. Brittlebank, C.M.G., M.R.C.V.S., said he rose with a considerable amount of trepidation. However, he could frankly say that during the whole of his association with the Royal College of Veterinary Surgeons as their nominee he had nothing to regret. There was no question of policy which he had to expound to them ; his views, he thought, were broadly known to them, and they were based essentially on the welfare of the whole of the veterinary profession. He was not concerned, because he happened to be in a particular branch of the profession for that branch only, and he claimed to have a knowledge of the life of a practitioner, which he always did his best to try and improve if he possibly could, but we lived in difficult times—as Captain Hopkin had very ably said, probably the most critical time in the history of the profession, and he thought that every other political subject should be waived at the moment in order that they may repel the attack waged upon them. Most of those present would be acquainted with the correspondence which had appeared in the public press, and they would no doubt, along with him, have been struck with some of the prominent features of the letters that had appeared. What did they say, these outsiders who were ready to take them under their wing, educate them, and give them a social position ? They would remember that they were described as a profession which was imperfectly and improperly educated, and that because they were not associated with these great universities of somewhat mushroom growth, they did not occupy the social position which they should occupy. On the other hand, he felt quite sure that they would agree with him that they, as practical veterinary surgeons, who had served an apprenticeship in the profession of considerable length, were quite well aware of the requirements of their profession, and, while appreciating the advice of those gentlemen from outside, they were well able to attend to the house in its disorder, but which, they found, required only a certain amount of redecoration.

To those of them who were well acquainted with human medicine there would be no easier task than to level innumerable charges against them, and

charges which were based upon facts, but he hoped that the veterinary profession would never lose its self-respect and dignity by dictating to another profession what it should do.

The Council of the Royal College of Veterinary Surgeons, so far as he was able to interpret it, was accentuated by the very highest motives. He was told when he went there that it was divided into cliques, sections, etc. However, wherever human beings are gathered together there was the tendency to the formation of groups, groups so formed because they happened to agree amongst themselves. But it did not necessarily follow because they agreed on a particular point that they were not honest, and he would go so far as to say that he believed that whenever a vote was taken on any particular matter of importance, such was the honest opinion of the members present in Council. Fortunately, a very great amount of work was done in committee. He had served on several committees in the Royal College, and was to-day a member of the Finance, Examinations, Parliamentary, Registration and Libraries and Publications Committees. The only difficulty that he found was that the work was getting very heavy, and the time was rapidly coming when men of considerable leisure would be required to attend to the work of the Royal College of Veterinary Surgeons. For instance, they were in London for three full days for their last meeting, and there was not throughout those three days half-an-hour to spare for themselves. It was no "joy-ride," but the reward of course, if any was required, was that one was doing what one thought was one's duty.

Certain expressions of views might not always meet with approval, and if anything he had done did not meet with their approval, he asked them to believe that it was perfectly honest, and so long as they were content that he should pursue the course that he had laid out, then he was prepared to serve them, if he was fortunate enough to be returned. But, as he had said previously, the most prominent business before the veterinary profession to-day, and he thought everything else should go overboard, was to fight for its existence. It was not a question of fighting against the breakdown of their portal system, it is for their existence as a profession.

He could speak at considerable length on side issues, but he felt sure that what he might say would be familiar to most of them.

The question of education was prominently before the Council to-day, and they had succeeded in getting a special committee formed, which had wide terms of reference, to consider the whole of the bye-laws which dealt with education, and to make such necessary recommendations as they thought should be made with regard to their amendment. He thought there could be no question amongst men who had to work in the field that that was the crux of the whole education curriculum. Too many of them realised, especially those who had met young men straight from the schools, and those of them who had been at the examinations acting as delegates, that they must move with the times. Something was necessary to bring those young men into the position of being familiar with the subjects that they had to handle. The President's statement of a qualified veterinary surgeon who had not seen the normal act of parturition in one of the larger animals was no new experience to him. He regretted to say that he had met more than one such veterinary surgeon. Such a thing as that should not be possible. He did not care whether a man was going to practise as a research worker, he held that he was not fully equipped unless he understood those very elementary practical questions to which he had referred. How these questions were to be put right it was not for them to discuss at that moment, but he thought they might safely leave them with the Council of the Royal College of Veterinary Surgeons, who were fully alive to the interests of the profession.

A considerable amount of new blood had been introduced to the Council in the last few years, and it was customary to talk of new blood as being the vitalising agent of the whole, and probably to some extent rightly so; but a council completely composed of new blood would not carry the confidence, or have the experience, of a council with the judicious blending of both. He would say of the older members of Council that to some of them who wanted to rush, their words of acquired wisdom were very much appreciated by him, and he hoped that the time would not be far distant when there would be nothing approaching what seemed to be a very prominent feature of to-day—a revolution calling for an entire change. The time was not yet. If they could go on and develop uninterruptedly, he felt sure that the profession would have nothing to regret, but it would require a considerable amount of loyalty inside the profession, if that loyalty could be obtained, especially in view of counsel's opinion, which was taken by the Royal College of Veterinary Surgeons, on certain phases of the attack made upon them. If counsel's opinion was upheld in the Privy Council, then they would be in a stronger position than ever. That there was room for improvement in the profession he was convinced.

He thanked them very much for giving him the opportunity of placing some of his views before them.

Mr. H. H. WRIGHT, M.R.C.V.S., said he would like to thank Colonel Brittlebank and Mr. Hughes for their very kind addresses. He thought the Lancashire Veterinary Medical Association would be very well represented if they could only return these gentlemen, and it was "up to" them to see that they were returned. They knew full well the work, energy, and the time that Colonel Brittlebank had given already, and he thought it would be a calamity if he was not returned to represent them and the profession again. There was no doubt that Col. Brittlebank possessed the up-to-date, forcible foresight and everything necessary to carry or help to carry the profession further forward, and he was pleased to have the opportunity of thanking him for his past services, and he hoped that Col. Brittlebank and Mr. Hughes

would be returned for the further interests of the profession at large in the future.

Mr. A. W. NOEL-PILLERS, F.R.C.V.S., said he would like to associate the name of Mr. H. Sumner, senior, with the remarks made by Mr. Wright. Mr. Sumner was one who had taken a great interest in the profession, and he knew full well the avenues along which this attack has been made. He felt sure, knowing what they did of him, that what little Mr. Sumner could do he would do in the interests of the profession as a whole. He did not think he could say any more except to associate himself with the remarks already made.

Lieut.-Col. J. W. BRITTLEBANK, C.M.G., M.R.C.V.S., proposed, and Mr. J. H. WRIGHT seconded, a vote of thanks to the President, Captain F. Hopkin, which was carried unanimously.

Captain F. HOPKIN, M.R.C.V.S., in reply, said as far as he was concerned he would do his best, and all he asked was that the members would rally round him and help the Association to go forward with energy.

This concluded the meeting, which was followed, in the evening, by the annual dinner.

THE DINNER.

Captain F. Hopkin (the President) was in the chair, and the members present were Messrs. Wright, Taylor, Whitehead, Pillers, Brittlebank, Dobie, Woods, Hughes, Lord, Elam, Johnstone, Locke, Mayall, Adamson, Butters, Cockburn and Spruell.

Guests:—The Lord Mayor of Manchester (Alderman E. D. Simon), Alderman Turnbull, Alderman Johnston, Col. F. H. Westmacott, Col. Nall, M.P., A. Hailwood, Esq., M.P., Professor W. Yorke, Dr. Sidebotham, Dr. Roberts, Dr. Ashcroft, Mrs. Hopkin, Mrs Brittlebank, Mrs Locke, Mrs. Pillers, Miss Dobie, Mrs. Johnstone, Mrs. Cockburn and Mrs. Elam.

The PRESIDENT proposed the toasts of the King and the Prince of Wales.

Mr. W. A. TAYLOR, F.R.C.V.S., proposing the toast "Imperial Forces," said it was a task from which he would be one of the last to shrink, and that was to propose the health of the Imperial Forces, and by that term he took it to represent the Navy, Army, Air Force, and the Volunteers. He was too old when the recent war broke out to fight, but he had two sons who were young enough and willing enough to do so; one of them he lost, and the other came home, but if he himself had been of age, he would have been one of the first to volunteer in the service of Old England. He hoped that all present that evening would live to see peace in the long future, peace in which all could work in their respective spheres without the threat of danger from foreign sources. He asked them to drink to the health of the "Imperial Forces," and to couple with it the name of Colonel Westmacott, C.B.E., T.D.

Colonel WESTMACOTT, C.B.E., T.D., replying to the toast, thanked the Association very heartily for the kind invitation to join their fine gathering that evening, which he had enjoyed very much indeed, and more particularly in having the gracious wife of the President alongside to keep him entertained. He greatly appreciated the honour in being called upon to reply to such an important toast as that of the "Imperial Forces," and to which he felt totally inadequate to do justice. But as they were not at the moment seriously contemplating what they were going to do with the Imperial Forces, what he had to say would be of no moment and would not influence the Army Council or the Government. (Laughter). When one came to think of it, "The Imperial Forces" was a very apt expression to cover the most mighty conglomeration of people that ever existed in the history of the world, consisting of races and people of all nationalities and from all quarters of the globe who came together voluntarily and freely to give themselves, their lives if necessary, their treasure and whatever else they possessed to support a cause which was the greatest service to mankind.

The Imperial Forces only a few years ago consisted of a few regular divisions and a few auxiliary forces, and when they come to think that the voluntary spirit of that auxiliary force, and especially the Territorial Force, stemmed the tide of invasion, they could quite understand how it was that they could raise an army of 10 millions in support of their cause. He felt sure that the same spirit which had animated the British race in conjunction with their Allies, and he did not wish to minimise the efforts and results which their Allies achieved, would dominate the situation and produce out of the chaos a satisfactory peace which would be acceptable to all civilised nations of the world. He would like to draw their minds back to the German Emperor's historic order in 1914, of which he possessed a copy, in which reference was made to General French's "contemptible army." Well, he had no doubt at that time they did think it was a contemptible little army, and of course history repeated itself, because they had a remark passed in the French Chamber, referring to the pact which was in negotiation between Great Britain and France, "Where is the British Army?" It was not there in person, but in spirit, and would be available again if necessary. Fortunately they would be able, he thought, in the next few years to carry on satisfactorily with a reduced Imperial Force, reduced not only in the land forces, but also in the naval force. He maintained, however, that what we had left were the very cream and essence.

He thanked them very much indeed for the hearty way in which they had received the toast, and for their kindness in asking him to respond to it.

Mr. A W. NOEL-PILLERS, F.R.C.V.S., proposed the toast "City of Manchester," and said he rose with a great deal of diffidence to propose such an important toast, as no doubt many of them knew there was at least one gentleman present who could propose that toast in such a way as to draw forth acclamation from everybody. Unfortunately that gentleman was down to propose another toast, but he sincerely felt that the gentleman in question would have done justice to it in a much better way than he could. Last year at the annual dinner he had the privilege of sitting next to the then Lord and Lady Mayoress, and he confessed that he felt very insecure indeed as to the future of Liverpool; the future of Manchester was assured, and he could only tell them that he did not think he had ever met two people so full of Manchester, and he might say patriotic to their town, as last year's Lord and Lady Mayoress. Some of his friends had a tremendous lot of nasty things to say about Liverpool,

and a great deal of praise with regard to Manchester, and if what they say was only half true, the imports into the City of Manchester were likely to go on increasing.

The Lancashire Veterinary Medical Association, as some of them would know, was one of the very oldest, and not only one of the very oldest, but one of the largest, and to show them what a magical spell Manchester had, meetings in Manchester were always a success, whereas if they should decide to hold a meeting in another town, they never got a very successful gathering.

He would like to emphasise that Liverpool was doing its part, not only to the profession, but to the City of Manchester that evening. There had been in the City of Manchester some very great veterinary surgeons, men who had directed the policy of the profession; there had also been some very great scientists. Owen was a great man, and he did not forget the veterinary profession in his work, nothing being too small for his observations in comparative anatomy, so that Manchester was to them always something to look up to.

Now, as he had said before, in his hands this toast would not receive the justice that it should do. He could only ask them to rise and drink to the long-continued prosperity of the City of Manchester, a great town, in a great county, in a great country, and to ask them to couple with it the name of the Lord Mayor, and he would like to say how much they regretted that the Lady Mayoress was not there.

The Lord Mayor (Councillor E. D. Simon), in reply, said it was a great pleasure to him to be with them that evening, and to respond to the toast of the City of Manchester. It was a particular pleasure also to respond for the first time to a toast moved by a Liverpool man. There was certainly a friendly and long-standing rivalry between Manchester and Liverpool. As soon as it came out that the proposer was a Liverpool man, he started in a very tactful way comparing Manchester and Liverpool. He was very glad to know Liverpool people were so good at attending dinners, and he was very pleased they were broad-minded enough to invite ladies to their dinner, as since the 1st of January he had been to several dinners at that hotel at which no ladies were present, and he congratulated the society on having led the way in this direction.

They had in Manchester an Agricultural Committee which dealt with small-holdings, allotments, etc., and so it was not altogether out of place for him, as Lord Mayor, to attend a dinner of this sort.

He was very glad to be with them, and, as a member of the Public Health Committee, he was very glad to see Colonel Brittlebank present. He was in entire sympathy with all Colonel Brittlebank was doing to get the farmers to give them a better milk supply, and as Lord Mayor he could not see why the farmers did not do all that Col. Brittlebank told them. Speaking as a farmer himself, he confessed they were in a certain groove, and found it difficult to adopt new methods. Very great efforts had been made in Manchester, but they had not been successful in getting the milk supply to compare with that produced in America. It was now recognised that a pure milk supply from the public health point of view was one of the very important things they had to work for, and he felt the co-operation of the whole veterinary profession was needed to help to get this pure milk supply, it being to the mutual interests, both of the veterinary surgeon and the local health authorities to see that something was done, and he thought if the work was done satisfactorily, a much larger force of veterinary surgeons would be needed. They in Manchester would do all they could to co-operate with the veterinary profession, and he hoped they would succeed in getting a much purer milk supply than they had hitherto had.

Mr. Wm. Woods, F.R.C.V.S., proposing the toast, "The President," said 30 years ago anyone proposing this important toast was generally expected to make a few complimentary remarks respecting the gentleman who occupied the chair, pointing out a great number of his high qualities. On this occasion he might take the same line and devote a considerable part of his speech in support of the father of their President, whose death not very long ago came as a great shock to many members of the veterinary profession, but fortunately he was able to speak about the President himself.

During the early stages of the war he heard that Lieut. Hopkin had been left in charge of a large number of sick horses within three miles of his (Mr Woods) home, so he went and called upon him and found him in a cheerless sort of tent with equally cheerless sleeping accommodation and with between 250 to 300 sick and diseased horses, with a number of men to help him (who were not the pick of the British Army—they had been taken away) who had the slightest, the most limited knowledge of horse management, and that was the state of affairs which Lieut. Hopkin was left with in the middle of a big field. The cold weather was coming on and he had about 200 exceedingly bad cases of ringworm. Well, veterinary surgeons would know perfectly well that it was hopeless to deal with a position of affairs like that without clipping their horses. It was a hopeless position, but Lieut. Hopkin never grumbled or groused. His horses were brought under cover and he organised a very successful veterinary hospital there, so successfully, that very soon he was evacuating these horses to the tune of about 25 a week. It was a great accomplishment to anybody who knew the difficulties he had to contend with. When he had cleared that lot out they put him in command of another hospital. Captain Hopkin made a model hospital, so much so that in conversation with the head of the Western Command he told him that he never need go inspecting at Hopkin's hospital.

Wigan, of course, was a world-renowned name, but it was not remarkable for its good lodgings. Captain Hopkin and his wife were not comfortable, and they were uncomfortable in not being able to do much for them. But there was another side to Captain Hopkin's character; when he did get help in the person of their Secretary, he occasionally went out hunting with them. They took him over some funny places, but although only on a little polo pony, he was always with them.

In conclusion, he asked them to drink to the health of the President.

The President (Captain F. Hopkin, M.R.C.V.S.), in reply, said it was not so very long ago at one of the Lancashire Veterinary Medical Association meetings that he heard a compliment paid to the President by one of the

members, that he was an excellent President, as he hardly heard him speak all the meeting. He was going to adopt that position. He wanted to thank Mr. Woods for all the kind things he had said, and he did not want the opportunity to pass without thanking him for his past kindnesses. If only the same spirit was shown him during his term of office as President of the Lancashire Veterinary Medical Association by the members, and he could put in that same spirit to make the society a success, when the time came for him to retire and give up for somebody else, if the success had been as great, he personally would be satisfied with the work done. He thanked them all for the reception they had given him.

Mr. E. H. STENT, M.R.C.V.S., proposed the "Medical Profession." The toast which he now proposed was really the one that he looked upon as the principal toast of the evening, for the reason that if it had not been for the help of the medical profession many present would not have been there that evening. The veterinary profession understood and sympathised with the medical profession more than any other body, because they were able to understand their difficulties in diagnosis and the difficulties they had with their patients. It was very often said to veterinary surgeons that it must be much more clever to be a veterinary surgeon than a doctor, because your patients would tell them where the pain was, but they could tell and did so by signs and symptoms which observation was able to interpret, and there was one thing —they did not tell lies.

The medical profession had many special branches, the surgical side having made very much greater headway of recent years than the medical side, but the coming of Sir Almroth Wright's opsonic index theory had opened up the new treatment of serum and vaccine therapy with much success to the medical side.

As their colonies looked upon that country as their motherland, so the veterinary profession looked upon the medical profession, and had taken many leaves out of their book. Now a very great advance had been made in veterinary science, and like the colonies they were independent and did a very great deal of work on their own, and that without any Government aid, and no wealthy people had ever thought of leaving any money either to the veterinary colleges or for research work.

It was very different in the States of America, where nearly every State had its own experimental college. They experimented with all the different kinds of animals, with their different ways of feeding, and their veterinary pathologists had control of all the diseases and carried out a great deal of experimental work. The veterinary pathologist at Illinois State University recently discovered that ptomaine poisoning in man and fodder poisoning in horses were produced by the same bacillus (*Bacillus botulinus*), and had produced a serum that had been of great service in saving animals and human beings.

Dr. E. J. SIDEBOTHAM, in reply, said he took it as a great compliment to the Public Health Laboratory that the veterinary profession had asked him to dinner that evening. He took it as an index of the good feeling which had always existed between the Public Health Laboratory and the veterinary profession. The two branches of the profession were both engaged in the fighting of disease, and, as Mr. Stent had said, the more they co-operated the better it would be in fighting disease. He had often been asked lately as to what the prospects of a boy were in the veterinary profession, and he had always replied that the boy would not make a great deal of money, and also that he must be a lover of animals. The successful doctor was the one who inspired his patients with confidence; it was just the same with the veterinary surgeon. He always told them if they did want to make money to specialise in dogs. He had had the pleasure of making vaccines for dogs, from whom he had received more sympathy than from his other patients.

In conclusion, he thanked them very much for their extreme kindness.

Lieut.-Col. J. W. BRITTLEBANK, C.M.G., M.R.C.V.S., proposed "The Visitors," and said it gave him particular pleasure to rise once again and propose the toast. He was not, he would remind them, a low churchman, and he had no hesitation in expounding his particular views on those who had honoured them with their presence that evening. He reminded the visitors of something perhaps they did not know, that the veterinary profession was passing through a somewhat serious phase in its history. There were many people outside the profession who took it upon themselves to advise them as to how the profession should be conducted, and as to how the students should be educated. They also had the impudence to write to *The Times* that they were somewhat uneducated, but they had never yet presumed to teach them the art of hospitality. They had had to admit that whatever else they might presume to teach them they had allowed them the single art upon which they rather prided themselves. The night was getting on, and he was quite sure that as a profession the Lancashire Veterinary Medical Association, a portion of the profession, felt highly honoured at having so many distinguished visitors with them that evening, and he asked the ladies and gentlemen present to rise with him and drink very heartily to the toast of the visitors.

Alderman T. TURNBULL, in reply, wished them all success and prosperity in their particular spheres of life in the profession. There was no doubt it was a humane profession, and on behalf of the visitors present he wished them all the possible well-being he could express.

Major J. NALL, M.P., supported, saying that he very cordially endorsed the observations which Alderman Turnbull had made, because after all they were apt to forget in a busy industrial city what a service the veterinary profession rendered to humanity. It had been referred to by the Lord Mayor in connection with the milk supply, and also in relation to meat. It should be remembered that, although agriculture was not so regarded, it was in fact one of their chief industries, for they held the premier position in the world for stockbreeding, and it was due to the high standard of English stock that the meat producing countries of South America were able to maintain the meat supply on which we had to depend during the war, and that the high standard of stock for which this country was noted was in no small measure due to the untiring endeavours of the veterinary profession. He thanked them very much for their kindness.

Mr. J. H. WRIGHT, M.R.C.V.S., proposing "The Ladies," on behalf of the Association, begged to thank the ladies

for their presence that evening. They were always welcome, and the dinner would not be a success without them. The ladies were always wanted, and their services during the war, which had not been touched upon that evening, were of very great importance. He did not think he could say too much, and on behalf of the Association he conveyed their thanks and pleasure for their company that evening.

He asked them to rise and drink to the health of the ladies.

Mr. G. MAYALL, M.R.C.V.S., on behalf of the ladies present, suitably replied.

JOHN SPRUELL, *Hon. Secretary.*

South-Eastern Veterinary Association.

The sixth annual general meeting of this Association was held on Thursday, February 23rd, at the Market Hotel, Ashford.

The President, Mr. T. F. Hogben, occupied the chair, and there were also present Messrs. J. B. Buxton (F.), A. T. Crowther, G. W. Dunkin, F. C. Gillard, E. Morgan, G. Wacher, O. V. Gunning, C. W. Perrin, and the Hon. Secretary.

Letters of regret at inability to attend from illness, employment on foot-and-mouth disease, and other causes, were received from the following: Messrs. E. Lyne Dixson, W. Coveney, J. Washford, J. Crowhurst (F.), P. Gregory, F. Crowhurst, C. Crowhurst, F. F. Horton, J. B. Dier, O. Stinson, C. Roberts, H. C. Rockett, and F. C. Golden.

The minutes of the previous meeting were confirmed.

ELECTION OF OFFICERS.

President.—Mr. T. F. Hogben was unanimously elected President for the third year.

Vice-Presidents.—E. L. Dixson, P. Gregory, C. Crowhurst, C. Roberts, E. Ebbetts, and G. W. Dunkin.

Council.—T. Hibbard, J. B. Dier, F. C. Gillard, E. Morgan.

Hon. Secretary and Treasurer.—H. P. Hogben.

Hon. Auditors.—F. C. Gillard and C. W. Perrin.

Resignations.—Mr. Chas. Morgan, who was retiring from practice, tendered his resignation, but, on the motion of the President, was elected an honorary member of the Association. It was unanimously agreed that Mr. T. Hibbard be asked to reconsider his resignation.

Finance.—The statement of accounts showed that the year opened with a balance of £11 0s. 1d. The expenses totalled £22 3s. 9d., and subscriptions received amounted to £11 6s. 6d., and with payments due on combined meetings of £4 1s. 10d., there was an estimated balance of £4 4s. 8d., with considerable outstanding subscriptions.

National Veterinary Association.—Affiliation was confirmed, and Messrs. E. L. Dixson, G. W. Dunkin and the Secretary were appointed representatives. The Secretary was also appointed divisional publication representative.

Victoria Veterinary Benevolent Fund.—The annual subscription of £2 2s. 0d. was voted, and Mr. J. B. Buxton was re-appointed representative of the Association.

Malcolm Fund.—A donation of £2 2s. 0d. was voted to the fund.

Sanitary Congress.—The question of representation was deferred to next meeting.

COMBINED MEETINGS.

A proposal was brought forward by Mr. G. W. DUNKIN that the S.E.V.A. should withdraw from the combined meetings, as these had not achieved the objects for which they were instituted.

Mr. Dunkin stated that it was hoped that these meetings would prove an attraction with increased numbers, but the converse had happened.

He was very much interested in the S.E.V.A.; their meetings had always been very successful and well attended, but had not been so good since the combination, and he thought now they should revert to local conditions, when he believed their prosperity would be as great as in the past.

This was supported by several others.

The PRESIDENT stated the meetings had been good meetings, but not well attended by the Association.

The SECRETARY said that he regretted that it was probable that the combined meetings would not be continued, as they had provided excellent demonstrations and mental pabulum. It was a most difficult task to provide the latter, and he thought the Association should remember that in future they would have to depend upon themselves for it.

The proposition was carried unanimously.

Mr. A. T. CROWTHER then gave a paper on "Clinical Notes," introducing several cases of general interest, and an interesting discussion followed in which most of the members present took part.

The next meeting of the Association will take place on Thursday, May 25th, at the Royal Star Hotel, Maidstone.

HUGH P. HOGBEN, *Hon. Sec.*

Notes and News.

The Editor will be glad to receive items of professional interest for these columns.

Foot-and-Mouth Disease.

Another case of foot-and-mouth disease has occurred in the Chesterfield district, at Whittington.

The Ministry of Agriculture have now issued an Order, which takes effect forthwith, prohibiting the removal of cattle within a radius of about 15 miles, which includes the boroughs of Chesterfield and Ilkeston and the Petty Sessional Divisions of Chesterfield, Eckington, Alfreton, and Bakewell, with certain exceptions in the last-named police district.

A fresh outbreak occurred at Coldingham, a town situated just over the Scottish border, a few miles from Berwick, and in consequence a flock of 800 sheep and 19 head of cattle will have to be slaughtered. The slaughtering will occupy a week.

Animal Diseases in 1921.

The annual report by Sir John M'Fadyean is published in the current volume of the *Journal* of

the Royal Agricultural Society of England. It gives the number of outbreaks of different animal diseases during 1921, with the corresponding figures for former years. The following is a summary of the number of outbreaks in the different years :—

	Sheep Scab.	Swine Fever.	Parasitic Mange.	Glanders.	Rabies.
1913 ...	235	—	—	—	—
1914 ...	226	4356	—	—	—
1915 ...	257	3994	—	—	—
1916 ...	381	4331	—	47	—
1917 ...	543	2104	—	24	—
1918 ...	351	1407	4463	34	98
1919 ...	438	2305	5016	25	150
1920 ...	479	1816	3564	15	42
1921 ...	732	1286	2048	11	23

The number of horses attacked by glanders in the six years 1916 to 1921 were 117, 62, 98, 61, 22, 42 ; and the numbers of horses affected by parasitic mange in the four years 1918 to 1921 were 8377, 9861, 3812, 3094.

The following is a summary of the cases of anthrax, and the number of animals affected in the past seven years:—1915, 575 outbreaks, and 642 animals attacked; 1916, 571 outbreaks, and 687 animals attacked ; 1917, 421 outbreaks, and 480 animals attacked ; 1918, 245 outbreaks, and 282 animals attacked ; 1919, 234 outbreaks, and 314 animals attacked ; 1920, 459 outbreaks, and 547 animals attacked ; 1921, 515 outbreaks, and 650 animals attacked.

During 1921 there were 44 outbreaks of foot-and-mouth disease, involving the slaughter of 3,085 animals as diseased or exposed to infection.

The Outbreak of Rabies.

The case of rabies which has recently been confirmed at Southampton was discovered in a seven months' old puppy. The last previous case reported in Southampton was a dog which was dead before the animal in the present case was born. Infection must, therefore, have been conveyed either by a dog illegally imported from abroad or by an intermediate case of local origin which was not reported to the Ministry. Further investigation is being made in the matter. Up to the present no further case of rabies in dogs in the district has been discovered, and it remains the only case known to exist at the present time in the country.

Performing Animals.

RIGHT OF ENTRY AND SUPERVISION TO BE SECURED.

It has been found by the Parliamentary Committee which investigated the question of performing animals that the existence of cruelty has been established. The report, which is signed by seven members, five dissenting, makes the following recommendations :—

The appointment of a Committee of Control by the Home Office, to consist of a chairman and eight members, two nominated by the R.S.P.C.A. and two by the profession.

The Committee to have power to supervise all performances and to prohibit or modify any exhibition.

Registration of trainers and exhibitors by the Home Office.

Prohibition of performances by the big apes, and special supervision of exhibitions by the larger carnivora, such as lions and tigers.

Stiffening of penalties for cruelty and for breach of regulations.

Frequent periodical inspection of animals and exhibitions, with the grant of legal right of access at any time to training-places or performances.

This right of entry is not possessed now, and this part of the report, it is understood, would require legislation. There will be no Minority Report, this being against Parliamentary procedure in this instance. But it will be open to dissenting members of the Committee to oppose the report when it comes before the House of Commons. The inquiry was followed with great interest, and caused much controversy, which is likely to be accentuated by the report, especially as the Committee itself is divided.

Obituary.

MR. J. F. HAYES.

We regret to record the death of Mr. John Francis Hayes, M.R.C.V.S., of 16 Summer Hill, Nenagh, which took place on March 31st. The deceased graduated at Glasgow on April 24th, 1883.

Correspondence.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

Anæsthetic Act Evasions.

Sir,—At the National Veterinary Medical Association meeting held at Chester last summer, a resolution was submitted by Mr. Wynn Lloyd, of Carnarvon, and adopted, that a strong letter should be sent to the president of the Ministry of Agriculture and Fisheries, requesting him to carry out in an effective manner the Animals Anæsthetic Act, instead of allowing it to become a dead letter. The facts remain that unqualified men (principally travelling gelders and horse breakers) are docking foals and other horses in the same old-fashioned and cruel way, without the aid of local anæsthesia,

The foaling season has now commenced, and I know from experience that the travelling gelder will be carrying his docking knife as part and parcel of his instruments in daily use, and will indiscriminately dock every foal he can place his hand upon. In fact, it has become such a common practice that farmers (except the most intelligent) hardly ever think of asking a veterinary surgeon to dock a foal. The chief reason for the employment of gelders, etc., is the cheapness. They cut the tails for 2/- to 2/6, whereas the veterinary surgeon with anæsthesia should get at least half-a-guinea.

Unless the Ministry of Agriculture intends to put this Act in order, and instruct the police force to carry it out, the Act will become not worth the paper it is printed on. But I sincerely hope that the National Veterinary Medical Association (the chief defensive agency of the profession) will insist on the Act being carried out, and will not leave a single stone unturned until it has attained its object, as this Act is really too valuable an asset to the qualified man to allow it to be ignored.

I shall feel obliged if you will kindly let the profession know in your next issue what reply has been received from the Ministry to the resolution submitted to them.—Yours faithfully, O. TREVOR WILLIAMS.

[The enforcement of the provisions of the Act in question rests with the police, and any specific case of infringement should be reported to the senior officer of the district.—ED.]

Diseases of Animals Acts, 1894 to 1914. Summary of Returns.

Period.	Rabies. Cases Confirmed. Dogs.	Rabies. Cases Confirmed. Other Animals.	Anthrax. Outbreaks confirmed.	Anthrax. Animals attacked.	Foot-and-Mouth Disease. Outbreaks confirmed.	Foot-and-Mouth Disease. Animals slaughter'd as diseased or exposed to infection.	Glanders (including Farcy).* Outbreaks reported by the Local Authorities.	Glanders (including Farcy).* Animals attacked.	Parasitic Mange. Outbreaks reported by the Local Authorities.	Parasitic Mange. Animals attacked.	Sheep Scab. Outbreaks reported by the Local Authorities.	Swine Fever. Outbreaks confirmed.	Swine Fever. Swine slaughtered as diseased or exposed to infection
GT. BRITAIN.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Week ended 20th May, 1922 ...	...	...	5	6	2	93	...	...	12	18	3	39	14
Corresponding Week in 1921	1	...	17	21	...	...	1	2	27	35	7	31	12
Corresponding Week in 1920	...	...	14	15	...	...	...	...	78	90	3	60	29
Corresponding Week in 1919	6	...	6	9	...	...	...	...	99	164	...	60	32
Total for 20 weeks, 1922 ...	...	...	260	285	1096	53003	...	...	652	969	403	488	167
Corresponding period in 1921	19	1	244	288	28	2669	5	9	1297	2021	366	489	149
Corresponding period in 1920	4	...	200	234	42	2432	9	16	2313	3990	279	904	313
Corresponding period in 1919	85	3	77	105	19	1033	6	30	2886	5661	211	598	224

NOTE.- The figures for the current year are approximate only. *Excluding outbreaks in Army horses.

IRELAND.												
Week ended 20th May, 1922 ...	...	...	...	...	...	...	Outbreaks 2	4	9	57
Corresponding Week in 1921 ...	...	...	...	...	...	...	2	...	2	3
Corresponding Week in 1920 ...	...	..	...	...	..	...	4	1	...	...
Corresponding Week in 1919 ...	...	...	...	...	...	...	1	1	...	...
Total for 20 weeks, 1922	1	1	...	...	...	...	57	115	120	662
Corresponding period in 1921 ...	...	...	2	41	...	...	41	130	25	168
Corresponding period in 1920 ...	1	1	...	...	1	3	64	144	4	16
Corresponding period in 1919 ...	...	...	...	...	1	1	59	145	16	57

NOTE.—The figures for the current year are approximate only.

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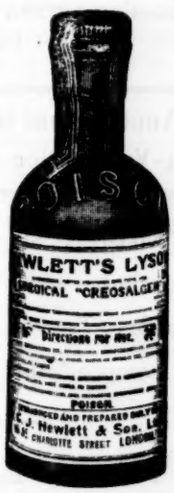

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